Advisory Council on Science and Technology
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16
EXECUTIVE SUMMARY

Canadian Migration Legislation, Policies and Practices

Prepared for the Expert Panel on Skills
by Don J. DeVoretz
Co-Director, Centre for Research on Immigration and Integration in the Metropolis
Simon Fraser University

August 1999

Canada

Executive Summary

Canadian Migration Legislation, Policies and Practices

-- Don J. DeVoretz, Simon Fraser University

Purpose

The central question of this paper is how does Canada's immigration policy affect Canada's world competitive position in obtaining highly skilled permanent and temporary workers? An equally important subsidiary question is what remedial measures are required to enhance Canada's competitive position?

Highlights

Competitiveness

- Canada's ability to compete in the world market for the highly skilled simultaneously requires a flexible immigration policy which can be altered with speed while still ensuring that highly skilled enter the labour market with no additional remedial training.

Legislative Requirements

- Based upon these criteria the current version of the *1978 Immigration Act* while containing a potentially strong set of selection criteria needs substantial revision. In fact, the current immigration act is under review and several recommendations of the review committee would enhance Canada's ability to attract the highly skilled.[1]

Tracking and recruitment issues

- The core problem is that the skills required in the future by the five cited industries under the EPS mandate are difficult to assess with the current points system. Hence, firms should be given a greater role in recruitment of both permanent and temporary highly skilled immigrants.

Visas and contracts

- Each year these selected industries should be allocated visas to recruit temporary workers and their spouses for contracts of one year or more. At the end of the contract period, these immigrants and their families would be eligible to apply for permanent immigrant status with bonus points earned for their successful temporary period in Canada.

[1] See Canada, Not Just Numbers, A Report of the Legislative Review Committee, Ottawa, 1998.

Recruitment strategies

- Canada's private sector must also become more active in recruiting the highly skilled at home. Foreign (and domestic) graduate students should be more actively matched with potential employers in the selected industries with a firm sponsored internship program.

Role of Government and Universities

- Universities should in turn award both degree and residency credits for these programs. The government's role should be limited to expeditiously converting a successful intern's student visa to a permanent landed status under their approved portion of the internship program.

Financial Incentives

- Canada must reward returning highly trained Canadian citizens with substantial tax remissions based upon both their training and demand for their skills in the five selected industries. The private sector can help induce these ex-patriots return via the outlined visa system and bonus payments in the form of payment of outstanding Canadian loans.

Conclusion

- Canada's reliance on permanent immigration to fill highly skilled niches is inefficient especially in light of the comparative advantage of the United States.

Recommendation

Aggressive action initiated by both the Canadian private and public sectors is needed to attract or retain the highly skilled in light of the growing competition. Private firm recruitment, financial incentives and a more carefully integrated temporary and permanent immigration are the essential ingredients to induce a "brain gain".

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SOMMAIRE

Lois, politiques et pratiques canadiennes en matière de migration

Préparé pour le Groupe d'experts sur les compétences
par Don J. DeVoretz
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Août 1999

Canada

Sommaire

Lois, politiques et pratiques canadiennes en matière de migration

-- Don J. DeVoretz, Université Simon Fraser

Objet

La question centrale du présent document est la suivante : comment la politique du Canada en matière d'immigration affecte-t-elle sa position concurrentielle à l'échelle internationale lorsqu'il s'agit d'attirer des travailleurs permanents et temporaires hautement spécialisés ? Une question incidente d'égale importance concerne les mesures de redressement nécessaires pour améliorer la position concurrentielle du Canada.

Faits saillants

Compétitivité

- Pour être en mesure de soutenir la concurrence sur le marché international de la haute spécialisation, le Canada a besoin à la fois d'une politique d'immigration souple qu'il est possible de modifier rapidement tout en faisant en sorte que les travailleurs hautement spécialisés entrent sur le marché du travail sans rééducation professionnelle additionnelle.

Exigences législatives

- En fonction de ces critères, le version actuelle de la *Loi sur l'immigration de 1978*, bien qu'elle contienne une série de critères de sélection potentiellement solides, a besoin d'être révisée en profondeur. En fait, la loi actuelle sur l'immigration fait présentement l'objet d'un examen et plusieurs recommandations du comité d'examen rendraient le Canada mieux en mesure d'attirer les travailleurs hautement spécialisés.[1]

Suivi et questions relatives au recrutement

- Le problème central est que les compétences dont les cinq industries mentionnées auront besoin dans l'avenir dans le cadre du système de points d'entrée sont difficiles à évaluer avec le système de points actuel. Par conséquent, on devrait donner aux entreprises un rôle plus important au chapitre du recrutement d'immigrants permanents et temporaires hautement spécialisés.

[1] Voir Canada, Not Just Numbers, un rapport du Comité de révision de la législation, Ottawa, 1998.

Visas et contrats

- Chaque année, ces industries choisies devraient recevoir des visas pour pouvoir recruter des travailleurs temporaires et leurs conjoints pour des contrats d'un an ou plus. À la fin de la période de contrat, ces immigrants et leurs familles seraient admissibles à présenter une demande pour obtenir le statut d'immigrant permanent et gagneraient des points en leur faveur pour la période temporaire qu'ils auraient passée au Canada.

Stratégies de recrutement

- Le secteur privé du Canada doit également devenir plus actif au chapitre du recrutement, au pays, de travailleurs hautement spécialisés. Les étudiants diplômés étrangers (et canadiens) devraient être jumelés plus activement avec des employeurs éventuels dans les industries choisies et participer à un programme de stage parrainé par une entreprise.

Rôle du gouvernement et des universités

- Les universités devraient à leur tour attribuer des crédits pour ces programmes qui compteraient pour l'obtention d'un diplôme et du statut de résident. Le rôle du gouvernement devrait se limiter à convertir rapidement le visa d'étudiant d'un stagiaire retenu en statut d'immigrant permanent aux termes de la portion approuvée du programme de stage.

Incitatifs financiers

- Le Canada doit récompenser les citoyens canadiens qui reviennent au pays après s'être spécialisés ailleurs en leur accordant des remises d'impôt substantielles fondées sur leur formation et la demande des compétences qu'ils possèdent par les cinq industries choisies. Le secteur privé peut faciliter le retour de ces expatriés par l'entremise du système de visas et de versement de primes sous forme de remboursement de prêts canadien en souffrance.

Conclusion

- L'utilisation par le Canada de l'immigration permanente pour remplir des créneaux hautement spécialisés n'est pas efficace, particulièrement à la lumière de l'avantage comparatif des Etats-Unis.

Recommandation

Des mesures énergiques doivent être mises en œuvre par les secteurs privé et public du Canada pour attirer ou retenir les travailleurs hautement spécialisés à la lumière de la concurrence croissante. Le recrutement par les entreprises privées, les incitatifs financiers et l'immigration mieux intégrée de travailleurs permanents et temporaires sont les ingrédients essentiels pour favoriser l'importation de travailleurs intellectuels.

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Introduction

Outline and Study Objectives

The alleged shortage in highly skilled manpower in Canada manifests itself in claims of a current 20,000 shortfall in software workers by the Canadian Advanced Technology Association.[1] In addition, DeVoretz and Laryea (1996) argue that an incipient 'brain drain' of highly skilled Canadian emigrants has reappeared in the 1990s. The combination of this increased demand for the highly skilled in conjunction with a continuous outflow of Canadian graduates points to the need for an aggressive Canadian immigration policy that competitively recruits worldwide to counteract this shortfall.

This essay will assess the ability of the current (1978) Canadian immigration act and associated set of regulations to meet this goal. More specifically, I will analyze the effectiveness of both permanent and temporary Canadian immigration policies and compare these policies to those of Canada's major competitors including the United States, Israel, Germany, the European Union and Australia. The intent of this comparative study is to assess if Canada is losing its traditional comparative advantage in attracting highly skilled immigrants. A successful immigration policy also involves the ability of a country to effectively repatriate its skilled emigrants, and thus I review individual country repatriation strategies. In sum, I will assess Canada's permanent and temporary immigration policies in the context of worldwide competition.

The outline of this study is as follows. First, I review Canada's recent history to ascertain if lessons are to be learned from earlier periods, and then review the central features of Canada's current immigration act. Next, I make a detailed assessment of the effectiveness of this act in the 1980s and 1990s in terms of its ability to attract qualified professional and technical immigrants. The competitive framework is next set with a review of Canada's competitor countries under two sections that first assess permanent and then temporary movement. Examples of repatriation policies from Canada's recent past and from Ireland, China and India are next analyzed. The final section makes policy recommendations in light of this experience.

Issues and Legislative History

Critical observers of Canada's labour market in the 1960s raised some of the same issues that are being debated in the 1990s. In the early 1960s, critical shortages of highly trained labour in engineering, academia and management were argued to be the norm (DeVoretz and Maki 1983). In addition, from the mid-1950s until the late 1960s, a substantial brain drain from Canada to the United States occurred in these professions (Grubel and Scott 1965). Faced with a highly skilled labour market shortage in the mid-1960s, Canadian officials devised an imaginative set of regulations under the then-dated *1953 Immigration Act* to partially meet these exigencies.[2]

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1 CATA (1996).

2 Temporary immigration was virtually unknown in the 1970s. I will address this issue in a separate section when I review the modern era.

Points System: Unique Selection Criteria

By 1967, Canada had developed a universal screening mechanism to assess potential economic or so-called independent immigrants (Green and Green 1996).[3] The primary motivation to develop this 'points system' was a need to determine the labour market qualifications of permanent economic or independent immigrants.[4] In terms of screening potential immigrants for their qualifications regardless of country of origin, this points system initially proved successful in transferring immigrants with substantial embodied human capital into Canada (Coulson and DeVoretz 1993).[5]

In addition to altering the immigration selection procedure, complementary fiscal policies were put into place in the 1960s to reverse the brain drain between Canada and the United States. Specifically, tax subsidies were instituted for returning Canadians as well as newly entering immigrants from the rest of the world with professional qualifications. After a minimum period of stay in Canada (three years), a substantial tax rebate for previously paid federal income taxes was returned to professionally qualified immigrants. No further tax rebate occurred after the initial three-year grace period.[6]

By the mid-1970s, a general reaction in Canada against the potential economic benefits of immigration had set in. The 1974 government discussion paper (Green Paper) on immigration argued that economies of scale could not be realized through immigration and a larger population. Rather, it was argued that free trade and the resulting larger market could easily achieve the necessary scale economies for an efficient economy. In this atmosphere, the *1978 Immigration Act* was debated and enacted. Under this act, the points assessment system was codified for independent immigrants, and two additional immigration gateways for refugees and more distant family members were formalized. Table 1 highlights the entry criteria circa 1992 after many revisions. The total of 100 possible earned points is divided into short- and long-term characteristics. We will later review which, if any, criterion is most effective in selecting productive, skilled immigrants. At this point, it is important to note that immigrants, through self-investment, can alter a group of human capital characteristics including language, education and experience prior to arrival.

---

3 The other two entry classes were nominated or sponsored immigrants and refugees.

4 Green and Green (1996) also argue that political considerations, namely the need to move to a more objective assessment system that did not discriminate against non-Europeans, was the second motivation.

5 They document that during the 1967-73 period, $21.7 billion (1994 dollars) of human capital was transferred to Canada (DeVoretz and Laryea 1998, Table 1, p.13).

6 This program was altered in the mid-1970s and then quietly phased out. An earlier version of this program was more direct. Professionals who immigrated to Canada simply did not pay the federal portion of their taxes for the first three years. A definite moral hazard problem existed under these rules, thus, the revision to placing refundable taxes in escrow for three years.

Table 1: Allocation of Points under 1992 Regulations

Category		Potential Points
	Long term	
Education		12
Age		10
Occupational Demand		10
Occupational Skill		15
Experience		8
Personal Suitability		10
	Short term	
English-French		15
Arranged Employment		10
Levels Control		10
Total		100

Source: D. Green 1995, p. 338.

This 'points system' in theory is potentially a very flexible policy instrument by which to achieve the desired immigration level and mix in any one year. Several dimensions of the selection system can be altered through regulations to tailor the potential economic or independent immigrant inflow into specific occupational niches, which are deemed critical at that point. We spell out these mechanisms below.

First, under the act, the Minister of Citizenship and Immigration is required to set an annual target level to be tabled in the House of Commons. Thus, by altering the overall yearly targeted inflow, the economically assessed entry class has been expanded or contracted based on the annually announced targets. With annual intakes ranging from a low of around 80,000 in the mid-1980s to over 250,000 in the early 1990s, the size of the points-based group has altered. When the yearly intake fell below 100,000 entrants, the economically assessed immigrant class almost disappeared (DeVoretz 1995). When the total immigrant intake rose to over 225,000 annually, the economic class then comprised 50 percent of the total intake.[7] Over the last 20 years therefore, the size of the skilled independent entry class has been directly related to the overall intake.[8]

A second source of discretion lies in the government's chosen pass mark or admission score for independent immigrants. The pass mark for the economically assessed has fluctuated, which has been a crucial indirect screening device. During the 1970s, the passing mark was 50 points (out of a then-available 70 points). By 1992, the passing mark rose to 70 points out of a possible 100 marks. Increasing the absolute number of required marks did not directly make the qualifying

[7] During the 1968-73 period, 73% were screened by the points system. By the mid-1980s this percentage had fallen to 25% (DeVoretz and Laryea 1998).

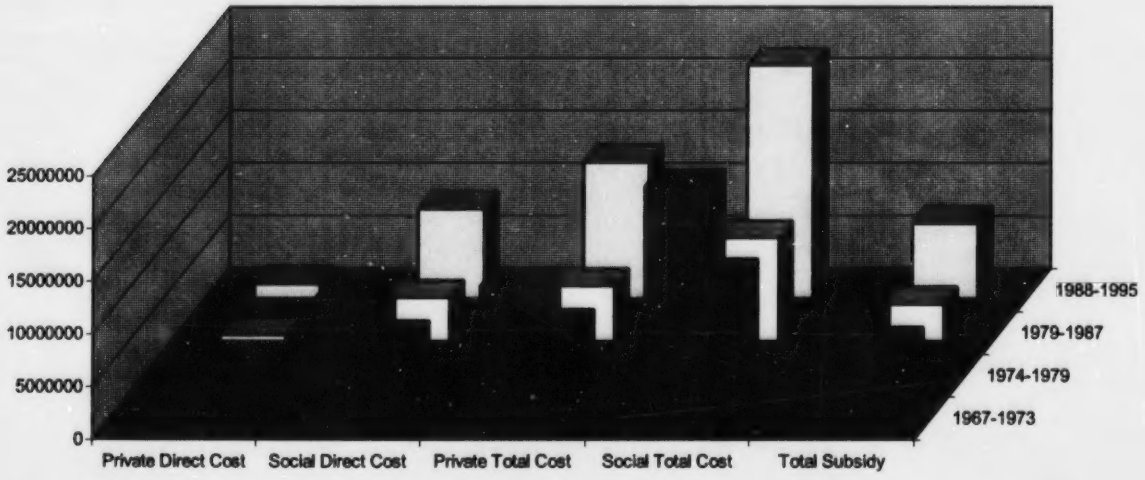
[8] The underlying practice was that the absolute size of the family class was not allowed to shrink, therefore the only method of increasing the economically assessed immigrants was to add them to the base number of approximately 80,000 family-class immigrants.

standards for the economically assessed immigrant entrants greater.[9] But changing the absolute level of points for admission had a secondary and subtle effect on the screening of the new immigrant arrival. Namely, in the 1970s, economically assessed immigrants could accumulate almost all (45 out of 50) of the required entry points with their human capital attributes of education, language, and age. When the pass mark for admission was raised to 70 however, the prospects of a human-capital-rich immigrant gaining entry diminished. Under the current system, the human capital attributes of age, education, language will only earn the prospective immigrant 37 marks (at maximum) or approximately 50 percent of the minimum required for entry. Other attributes including occupational demand criteria are now required, which open new opportunities to alter the entry classes' skill mix.

In sum, the policy levers embedded in the regulations under the extant *1978 Immigration Act* have been altered to affect the skill composition of economically assessed arrivals. In the early 1970s, a low pass mark (50) coupled with a greater weight for human capital characteristics and large absolute immigrant inflow insured the entry of a cadre of highly skilled immigrants. In the mid 1980s, the low absolute intake levels coupled with lower weights for human capital characteristics reduced the educational content of the immigrant inflow (DeVoretz and Coulson 1993).

Scientific Evidence on the performance of post-1978 immigrants

CHART 1: Human Capital Inflows From All Countries to Canada (000's 1995 dollars)



[9] Note that the admission criteria in terms of a passing score were nearly identical, 71% in the 1970s and 70% presently. However, the sources of points became relatively more diverse in the 1990s as the total rose to 100 from 70.

One criterion by which to assess the effectiveness of Canada's immigration policy is to value the amount of education embodied in each year's immigration flow. This valuation indicates the educational replacement cost saved by the Canadian taxpayer from importing a skilled worker. Chart 1 depicts many trends, but for purposes of this study we concentrate on the 1973–1988 collapse in the value of the skilled content of immigrants. The social total cost concept values all educational resources embodied in post-secondary leavers who entered Canada, while the total subsidy is the value saved by the Canadian taxpayer by not having to train a skilled or professional worker. Clearly, Canadian immigration policies after 1973 became less effective at attracting highly skilled immigrants. This reduction was owing exclusively to an absolute fall in the number of skilled immigrants. After 1988, the value of the skilled flow is restored to its previous high levels experience in 1967–73. This result was an outcome of an explicit policy, which both increased the proportion of skilled immigrant arrivals while increasing absolute immigrant target levels.

Two additional features of the *1978 Immigrant Act* points system have a potential impact on the ability to attract skilled immigrants. Assessment points can also be earned by meeting two additional explicit labour market criteria. The occupational demand for, and occupational skills of the immigrant can be potentially altered by raising or lowering the points awarded to these occupational criteria (see Table 1). Green (1995) has described and assessed the impact of these occupational regulatory measures on the skill content of pre-1986 immigrants. He argues that in the 1970s the average points awarded for occupational demand was close to the maximum (15) and hence, during this period, no fine-tuning to assess particular levels of occupational demand was attempted. In short, either the occupation was deemed in demand (15 points) or not (0 points).

Green notes that occupational criteria supplanted human capital criteria and as a consequence poses an important question. In short, given these occupational rules (as opposed to general human capital characteristics) did the intended occupations (as declared to the assessors) match immigrants' actual jobs after a substantial time in Canada? In other words, does a finely tuned set of immigration regulations lead to the desired occupational mix that is presumably in demand? Green (1995, p. 346) finds that "both professionals and those in manufacturing occupations form similar proportions in the intended occupation [at immigration] and later eventual actual occupational distributions." It is with some caution that Green concludes that at least until the mid-1980s the extant occupational screening regulations were effective. One proviso remained to insure a job match in the Green study. Namely, the immigrant still required bona fide educational qualifications and a willingness to move within Canada to exploit these advantages.[10]

A unique longitudinal administrative data set (IMDB) is now available to more closely assess the post-1981 version of the points system as well as the selection criteria imbedded in other entry gates. The IMDB database follows each entering immigrant throughout his/her stay in Canada if an income tax record is filed in the particular year under review. A marriage of the selection

[10] Green concludes, however, that further tests reveal that it is the educational attainment upon arrival and the ultimate settlement location in Canada that determined the actual occupation. Thus, the mere statement of intentions to enter an occupation to an assessor did not determine if you were in that occupation ten years later.

criteria (as reported in the landings file) to their tax file can be made that would depict, over time, the degree of immigrant economic integration in Canada. The income performance and use of social programs by an immigrant can thus be traced by entry gate and length of time in Canada.

A recent review by Citizenship and Immigration's selection branch using the IMDB provides evidence to answer two major questions about the efficacy of selection criteria in predicting the skilled worker's performance in Canada. First, they asked what particular entry characteristics (age, language, and education) criteria are associated with strong economic performance? Furthermore, which characteristics are irrelevant to predicting the performance of Canada's skilled immigrants? The findings are clear. Education, arranged employment and language proficiency are strongly related to income performance in Canada. Many of the other attributes measured in the selection of skilled workers are argued to be irrelevant, namely, prior experience, existence of a relative in Canada and personal suitability as judged by the immigration officer. Finally, DeSilva (1997), in a separate IMDB-based study, dissents from the above study's findings and argues that only one observed variable — age — affected immigrant earnings and that immigrant performance for the most part largely depended on unobserved characteristics.

Given these above IMDB studies and many census-based studies (DeVoretz, 1997), I now conclude that the *1978 Immigration Act* circa 1999, which still underlies the entry regulations, is potentially capable of altering the average human capital content (education, age and language) and thus the economic performance of the representative principal skilled independent-class applicant. Caveats remain, however. First, the principal or assessed applicant class often represents less than 25 percent of the yearly inflow. Next, only a few criteria really matter — age, education, language and pre-arranged job offer. Moreover, most of the successful criteria are very broad in nature and not suited to sophisticated fine-tuning. For example, years of education or degree level currently define educational requirements. In fact, it turns out that these seemingly straightforward measures are ambiguous. The ability of an immigration officer to judge accurately the comparability of a foreign degree to its Canadian counterpart and the possible recognition of this foreign degree by Canadian employers is limited by current vaguely defined immigration regulations. For example, differences in types of degrees awarded, e.g., science, humanities or social science, are not taken into account under the current legislation when points are awarded. Moreover, the degree equivalency is seriously in doubt under the current system. For example, is a three-year foreign program in engineering equivalent to a five- or six-year Canadian engineering program even though the degree designations are superficially the same? This is a difficult determination. Only ex-post judgments based on immigrant performance by degree level in the Canadian labour market can guide us. Screening presumed highly qualified immigrants with Canadian educational criteria has not produced favourable outcomes in the Canadian labour market. In fact, circa 1991, the stock of the highly educated (16 years or more) foreign born earned $216,000 less over their projected lifetime (discounted) than did a similarly educated Canadian. This indicates that, for whatever reason, the degree level implied by 16 foreign-born years of education is not equivalently rewarded in the Canadian labour market. [11]

[11] As DeVoretz and Laryea (1998) point out, discrimination as well as educational quality differences can cause this productivity difference.

Competitors' Immigration Policies for Permanent Movers

Regardless of how effective current Canadian immigration legislation is in attracting the highly skilled, ultimately Canada competes for a limited worldwide supply of the highly trained. Canada's major competitors for these desired immigrants in the 1990s are Israel, Germany, the European Union (EU), Australia and, of course, the United States. We first turn to the immigration policies (and proposed changes) in the United States since it is clearly Canada's main rival. Next, I summarize the immigration policies of Israel, Germany and the EU to better understand their special programs to attract or assist highly skilled immigrant arrivals from Canada's traditional European source countries. Finally, Australia's immigration policy is reviewed in detail since its basic skilled recruitment policy was originally modeled after Canada's point selection model and its experience should provide a close competitive example.

United States

The substantial career and income advantages available to potential immigrants to the United States should present formidable if not overwhelming competition for Canada in the recruitment of the world's highly skilled immigrants. However, the *1965 United States Immigration Act*, which remained in force until 1990, severely limited direct competition for the highly skilled between Canada and the United States. Several provisions of the act reduced the flexibility of the United States to compete. First, congressional action is required to alter a quasi-fixed yearly entry quota. From the mid-1960s until the late 1980s this quota was raised periodically to over 800,000. On average, however, only six percent of these visas were reserved for economic immigrants to the United States. Moreover, substantial labour market tests had to be overcome to insure legal entry of a skilled immigrant to the United States. In short, an expensive process had to be put in place to certify that the potential skilled immigrant did not replace or depress local labour market condition. The effects of these regulations and immigration policy restrictions are reflected in Table 2, which revealed rather modest total numbers of skilled immigrants.

Table 2: Immigrants Admitted to the United States by Occupation and Country of Birth FY 1986

Top 10 Countries	Total flow	Professional	Executive	Percentage
	1	2	3	4=(2+3)/(1)
Mexico	30,999	560	362	6%
Philippines	19,495	7,082	2,281	42%
Cuba	16,281	3,179	1,882	7%
China, P.R.	12,315	534	106	26%
Dominican Rep.	10,757	5,718	1,863	14%
Jamaica.	8,864	1,407	419	20%
India	8,448	2,413	184	55%
Vietnam	7,382	802	182	8%
U.K.	6,237	926	220	56%
Poland	4,649	2,159	1,573	26%

Prior to the legislative changes in 1990, immigrant arrivals from the United States' top ten sending countries varied greatly in their skilled content. The Philippines was the second largest sender in absolute terms and the percentage of skilled sent exceeded 51 percent, making it the largest single sender of skilled immigrants (8,225). India, the fifth largest sender in total, sent the second greatest number of highly skilled (4,678). In sharp contrast, Vietnam, the fourth largest sending group, sent only a minor number (5 percent) with skill content.

The *1990 United States Immigration Act* changed the competitive immigration position of the United States (DeVoretz and Laryea 1998; Green and Green 1976). Papademetriou (1997) argues that revisions under the *1990 United States Immigration Act* expanded the employment-based entry class to 140,000 from approximately 80,000 applicants, which eased the entry of highly skilled immigrants. This expansion of the employment class of permanent visas eventually increased the entry of the highly skilled from around the world, including Canadians. Papademetriou notes that the skill-based portion of the newly expanded permanent visas was initially under-subscribed. However, by the mid-1990s these visas were fully subscribed as the United States economy continued to expand.

Table 3: Immigrants Admitted to the United States by Occupation and Country of Birth FY 1995

Top 10 Countries	Total	Professional	Executive	Percentage
	1	2	3	4=(2+3)/(1)
Mexico	25,296	560	362	4%
Philippines	18,257	7,082	2,281	51%
China	15,360	3,179	1,882	33%
Vietnam	13,994	534	106	5%
India	11,327	5,718	1,863	67%
Dominican R.	8,928	1,407	419	20%
Poland	7,203	2,413	184	36%
Jamaica	6,842	802	182	14%
Cuba	6,017	2,159	220	19%
U.K.	5,982	2,159	1,573	62%

Table 3 again reports the top ten sending countries to the United States. Some dramatic changes occurred under the new 1990 legislation. The list of top ten countries does not change and in most cases the proportion of the highly skilled increases substantially (column 4). The Philippines (9,363) and India (7,601) grew substantially and remain the largest senders of skilled immigrants to the United States. China's skilled immigration flow also grew substantially between 1986 (3,251) and 1995 (5,061). A comparison of Tables 2 and 3 allows me to conclude that the *1990 United States Immigration Act* and a growing United States economy has led to direct and substantial competition by the United States for the highly skilled.

Finally, it must be noted that a substantial debate over immigrant quality has also appeared in the United States literature (Lowell, 1998). Reported case studies indicate that a portion of the alleged highly skilled are in reality underpaid contract workers with middling skills who actually displace unemployed United States engineers who could work with retraining.

In sum, a combination of a strong economy and a newly expanded permanent skilled immigrant entry class has made the United States a substantial competitive force. However, it is still important to note that immigrants who apply to enter the United States with a permanent visa will find the process complex and expensive.[12] Thus, in a later section I describe a temporary entry visa developed especially under NAFTA, which reduces this cost and simplifies the entry process to the United States

Israel

On an absolute and per capita basis, Israel represents the next serious competitor in the marketplace for highly trained international immigrants. Israel's permanent immigration policy is based on the Law of Return, which, simply stated, allows any bona fide Jew to immigrate to Israel. After 1989, this meant that Russian Jews with very specialized training entered in large numbers. During the 1990–91 period alone, 400,000 Russian Jews entered Israel, which had a population of only 4.5 million. Sixty-one percent of Russian male immigrants aged 20–60 were in the academic, scientific or managerial professions, with an astounding 74 percent of Russian females of labour-force age in these professions (Raijman and Semyonov 1998). In one year — 1991— these highly trained Russian immigrants increased the stock of existing Israeli engineers, doctors and dentists by over 50 percent. Due to certification problems, lack of adequate training and an existing oversupply in publicly funded occupations, about two-thirds of these entrants experienced downward occupational mobility in the first few years in Israel (Raijman and Semyonov 1998). Faced with this inability to fully exploit these presumed talents, the State of Israel embarked on an expensive and intensive program to re-certify and upgrade the skills of these professionally trained but unqualified Russian immigrants (Geva-May 1998). In addition to the universally available help for all Israeli immigrants, the professionals were provided with additional training after an initial screening exam. If the prospective professional failed this exam but was deemed trainable, an expensive mentoring program was begun. At the end of this program, the mentor judged whether the professional was ready for a re-certification exam, which, if passed, gained entry for the immigrant into the desired profession.

The conclusion to be drawn from the Israeli experience is that passively accepting all professionals, regardless of the value of their presumed degrees, is expensive in terms of both lost productivity and retraining. In fact, Raijman and Semyonov conclude that accepting large numbers of highly skilled workers in periods of mass immigration coupled with economic stagnation is a mistake. In short, in the Israeli case, the influx of highly skilled immigrants was not an engine of growth. Israel has reacted to these shortcomings by beginning an aggressive outreach program for screening potential immigrants. Under this program unofficial recruiters

[12] DeVoretz and Globerman (1998) cite estimates of lengthy and expensive delays for qualified Canadian immigrants to enter the United States under a permanent visa.

are sent to the former Soviet Union (CSFR) where they simultaneously begin Hebrew instruction and assess the credentials of the alleged highly trained applicants. In Israel, training positions are found for these pre-screened immigrants in teaching hospitals, etc., particularly for those young applicants deemed to have the greatest potential. In other words, external assessment in the source country prior to arrival is an integral part of the external recruitment process.

Germany

Germany also experienced large immigrant inflows from Eastern Europe and the former East Germany as well as asylum seekers and short-term movers. The migration of ethnic Germans or Aussiedler (who automatically become citizens) amounted to over 1.6 million movers between 1989–93 with 51 percent from the former Soviet Union (CSFR). In addition to these ethnic Germans, an additional 2.5 million immigrants moved to Germany between 1989 and 1996 making it the major immigrant-receiving country in Europe.[13] Between 1986 and 1996, the German foreign-born population grew from 4.5 million to 7.3 million. This foreign-born stock represented 9.1 percent of the German labour force circa 1996.[14] Whether this historical movement into Germany constitutes a case of Germany being a competitor with North America for skilled immigrants is another matter. Evidence suggests that few of these Eastern European arrivals to Germany have the same high level of human capital as their immigrant counterparts to Israel (Bauer and Zimmerman 1997). Thus, a German immigration policy based on German language or ethnicity does not pose a serious competitive threat to Canada's recruitment of highly skilled central or Eastern Europeans. However, it will be argued below that Germany has become the chief magnet for western European (or internal EU) highly skilled immigrants under an expanded free labour market with the European Union. This new form of competition will be outlined in the next section.

European Union

I argue in this section that both the scope and dimension of labour market integration within the evolving European Union will greatly reduce Canada's ability to compete for highly skilled immigrants in this historically important immigrant source area. Three major forces have appeared that will direct European skilled immigrants to remain in Europe and reduce their movement to North America. First, new legislation has eased the conditions for movement, residence and employment within the European Union such that it now rivals internal labour market conditions in Canada. Next, the number of member countries within the European Union has grown (Sweden, Finland and Austria) and their highly mobile and skilled immigrants will now be redirected within the European Union rather than moving to North America. Finally, associate membership or eventual full memberships for currently excluded Eastern European countries (Poland, Russian, Turkey, etc.) will necessarily end this movement to Canada.

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13 Sources T. Bauer and K. Zimmermann, 1997, and OECD, 1998, Table B-13, p. 241.

14 OECD 1998, Table 1.2, p. 31.

Scholars agree that of the three forces cited above, the integration of the European Union (EU) labour markets with the *Single European Act* (1993) represents a structural change, which will reduce permanently the pool of European skilled talent that may potentially have immigrated to North America.[15] The *Single European Act* insures that no worker from any member country can be refused employment authorization in another labour market. The only residual political constraint is a residency permit in the new country. Notwithstanding these improved mobility conditions, the absolute numbers of EU member nationals living in Germany (1.8m), France (1.1m), Switzerland (.8m) and the United Kingdom (.8m) *circa* 1996 are still modest in absolute numbers.[16] Bauer and Zimmerman (1997) have argued that this internal EU movement is still low, inhibited as it is by language differences and concerns over member-country differential social benefits. However, new member countries (Finland and Sweden) with highly taxed and skilled labour forces will represent the next wave of internal European movement as they move to low-tax areas within the European Union (United Kingdom) rather than to North America.

The major point for Canada circa 1999 is that, given a growing European economy, this at present modest internal EU movement will increase, especially in the managerial and highly trained groups, and reduce Canada's immigrant pool from these traditional European source countries. In addition, increased membership by central and Eastern European countries in the EU will exacerbate Canada's weakening competitive position to attract highly trained European immigrants. Currently, Germany is the almost-exclusive recipient (716,000) of central and Eastern European permanent immigrants to the EU (1.02 m) or 91 percent of EU total. Thus, as the EU expands and incorporates Eastern European countries, Canada's competitive position vis-à-vis recruiting highly skilled immigrants from central and Eastern Europe will diminish.[17]

Australia

Australia superficially represents the closest model to the Canadian immigration system since it mimicked many of Canada's points assessment procedures in the early 1970s. Several new immigration regulations have made entry for non-English speaking immigrants more difficult in the economic class. Specifically, under the current version of the Australian Migration Program (AMP), approximately 70,000 permanent immigrants are admitted as independents (points assessed), employer nominations, special talents, and business skills and family.[18] In 1997, the totals for the individual categories of special talents (5,800), business (5,600), independents (15,000) and employer nominations (27,500), represented 37 percent of all that year's permanent immigrants.[19] In March 1996, Australia introduced new regulations that were intended to enhance the benefits from this skill class of entrants. Unlike Canada, Australia now requires that the primary immigrant applicant speak English before arrival to a level that matches the linguistic requirements for the chosen occupation. Recently, Australia expanded its list of

[15] Essentially, all controls at the internal borders of the EU are abolished for EU citizens and only a residence permit is required after migration.

[16] OECD 1998, Table 1.3, p. 32.

[17] We return to this phenomenon of potential Central and Eastern flows when we review the large temporary movements to the EU.

[18] For 1994 to 1998 the totals (in 000's) in this capped category for each year starting in 1994 were 62.8, 76.5, 82.5, 73.9 and 68 (OECD, 1998, p. 77).

[19] Ibid.

occupations requiring English (ORE) to cover 80 percent of admissible occupations. In addition, to augment the skill content of potential immigrants, bonus points will be given to those who qualify for occupations in high demand or to those who have studied in Australian universities. Bonus points are crucial in the Australian context since the current pass mark is only 20 marks (compared to Canada's 70). The relative impact is obvious. Also Australia's program of rapid conversion of foreign students trained in Australia to permanent immigrant status will provide Australia with a significant competitive advantage over both Canada and the United States, which currently require student graduates to leave before they potentially may return.

In sum, what do these changing Australian regulations imply for Canada's ability to compete? On the one hand, Australia has refined its permanent immigration policy in such a manner as to become a strong competitor in the market for the highly skilled since it can recruit immigrants directly from its school system and reward the highly skilled with further bonus entry points. On the other hand, more rigorous English language requirements reduce Australia's competitive advantage in recruiting offshore Asian skilled immigrants. Finally, it must be remembered that Australian immigrant source countries differ from Canada's since the U.K. and New Zealand flows equal (circa 1997) Australia's flow from Asia. Thus, in reality, Canada and Australia have only one overlapping source group.

This review of competing permanent immigration recruitment policies indicates that the market for skilled immigrants has changed dramatically in the 1990s. The dominance of the United States has only been recently asserted under the combined forces of policy adjustment and its growing labour demand. Moreover, since Canada and the United States have common recruitment areas (China and India), this competition for skilled workers will increase in the next decade. Next, Israel's active recruitment and language training in central and Eastern Europe have increased the competition for highly skilled Jewish immigrants. The expansion of the European Union and the attraction of Germany for both EU migrants and non-Jews in central and Eastern Europe present another formidable competitive pressure for Canada. Finally, Australia's revised recruitment policies represent a set of new competitive forces. In sum, given that the world's supply of English- and French-speaking skilled labour is limited; these new competitive pressures will dilute Canada's potential pool of highly skilled immigrants in the near future.

Temporary Immigration Policies

All immigrant-receiving countries have an alternative entry gate to the permanent admission status. For example, permanent admission to Israel is difficult for non-Jews, and Japan, Germany and Spain have no formal permanent immigration entry gates for non-nationals. However, all these countries occasionally experience short-term skill shortages and thus import managers or other highly skilled workers under temporary visas. These temporary visas can be very restrictive in duration, employment opportunities, access to benefits, and sponsorship rights. Furthermore, most legal temporary immigrants face rigorous employment authorization tests. Modern examples of these temporary immigrants include students, intracompany transferees and

designated skilled workers.[20] The latest variant of temporary visas has developed as an outgrowth of trade agreements such as NAFTA. This recent growth in temporary visas, with often-extended conversion rights, has led to an increasing share of temporary movers in the total of all movers.

In the admitting country, the universal issues surrounding temporary visas are conversion rights to permanent status and the assessment of possible short-run depressing effects on training and wages. Many strategies have been developed to address these problems. Some countries bond employers to insure that temporary immigrants leave while other countries allow unlimited temporary renewals, leading to eventual permanent status.

Below I review several countries' temporary immigrant policies in light of their ability to attract highly skilled movers. It is important to note that, to date, each major immigrant-receiving country has experienced a different pattern of temporary movement. This differential experience in turn depends on the country's goals for its temporary program. These goals include limits on visa duration, ultimate conversion rights to a permanent status as well as the existence of various degrees of employment authorization. The goal of this comparative analysis is to see if there exists an optimal temporary immigration program suitable for Canada's future needs.

United States

The United States has a wide-ranging class of non-permanent (temporary) entry visas. This temporary work admission class forms the second part of a formidable immigration strategy to increase the number of highly skilled entrants into the United States. The definitions and legal restrictions on these visas are explained in Appendix II. The H1-B and TN-1 visas are the primary gateways for the highly skilled to enter the United States, initially on a temporary basis.[21] At the outset, 65,000 H1-B visas were available, but this number was raised to 115,000 for 1999 under pressure from the information technology (IT) industries (Lowell 1999). A labour-market test is required for the H1-B visa and the maximum stay is six years with a possibility of conversion to a permanent visa (E). The demand by United States employers for H1-B visas was so large that the annual cap was reached midway through the 1999-2000 fiscal year.[22] For Canadians entering the United States under the NAFTA accord with a TN-1 visa, no labour test is required and indefinite renewable is possible if the Canadian entrant is sponsored by a United States company (See Appendix III). In fact, between the period 1994–96, over 70,000 TN visas were issued to Canadians for an indefinite stay (DeVoretz and Laryea 1998).

As noted, temporary movers to the United States can convert to a permanent visa with sponsorship from either their original employer or with a new employer (See Appendix IV). Recently over 40 percent of H-class visa holders have converted to a permanent class visa

[20] Examples of modern skill shortages abound and range from stonemasons in Israel to IT workers for the Silicon Valley in the late 1990s.

[21] A TN-1 visa actually admits Canadian traders, investors, temporary workers and professionals. An HB-1 visa also admits anyone, including Canadians, who are professionals with an appropriate degree and licence to practice in United States. See Appendix II for details.

[22] The latest recommendation is to raise the H1-B cap to 200,000 IT immigrants.

(Lowell 1999). In other words, the United States has created a near seamless web of conversions from H-type temporary visas with numerical limits and TN visas (for Canadians only) with no limits to a permanent status in the United States if there exists employer demand.

In sum, 80 percent of all recent United States temporary visas were issued to the highly skilled.[23] Thus, with an oversubscribed annual quota of 115,000 temporary visas (H-1B) for IT workers coupled with unlimited NAFTA (TN-1) visas, plus L visas for intracompany transferees, the United States inflows of the highly trained increased from 110,200 in 1992 to over 144,500 in 1996.[24] It is now clear that a rival entry category, albeit temporary, for these skills has emerged in the United States. Moreover, the future composition of United States immigrants will continue to favour the relative growth of temporary movers with unlimited duration rights since highly skilled Mexicans will be eligible for TN-1 visas after 2001. In short, a trade agreement (NAFTA) has created a new and potentially dominating class of highly skilled immigrants.

Australia

Australia's temporary worker program, rather than its permanent immigration program, represents a less-competitive threat to Canada. Several factors lead to this conclusion. First, no type of Australian temporary visa is indefinite in nature since working permits can only be issued for a maximum of two to six years with no right of conversion to another employer or to a permanent status.[25] Moreover, employers must assume financial responsibility of the workers (or a designated sponsor must assume this role) for the duration of their stay. Finally, a labour-market test must be conducted to insure that no Australian is available for the temporary position. In sum, given these restrictions, Australia has a modest highly skilled temporary worker program (15,000 per annum), which is far less attractive temporary program than that of the United States or Canada.

United Kingdom

The temporary worker program in the United Kingdom is well focused since it only issues work permits to highly qualified workers as defined by their educational or professional qualifications. In addition, all temporary workers must have at least two years of prior experience, and residence is limited to six years with no rights of conversion to a permanent status. Exemptions to these rules do exist for business people. The limited number of entrants under this program of 17,000 reflects its restrictive nature but is misleading. In effect, as noted above, UK membership in the EU has created an alternative temporary (or permanent) worker entrance, which supplants this now-outdated method of arrival for the expanding membership list of EU source countries. Hence, mere membership in the EU has given the United Kingdom a substantial competitive edge over Canada in the recruitment of temporary highly skilled Europeans.

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23 Highly skilled for the United States is a B.A. or better degree level.

24 OECD 1998, p. 189.

25 Researchers or professors can convert to a permanent status with the same employer.

Germany

Germany is the last major county to issue substantial temporary work permits to putatively highly skilled workers. The German mechanism is rigid and does not provide competition to Canada. Several reasons exist for this judgment. First, all German temporary worker contracts are short term and are mostly bilateral (between Germany and a specific country) in nature. In addition, workers are under binding service contracts and can only stay in Germany for a maximum of three years. In fact, these bilateral exchange agreements constitute a German foreign aid training program and are not a source of temporary skilled workers for Germany. Hence, the human capital flow under this temporary worker program is from, and not to, Germany. However, as with the United Kingdom, it must be remembered that Germany's real temporary worker program, which gains skills from Europe, is subsumed under the free movement program of the EU accords.

This comparative analysis indicates that several temporary admission models exist that might prove instructive to Canada. One serious caveat remains before any firm conclusion can be drawn about the experience of any temporary worker program. First, no country has conducted an economic analysis of even the most basic impacts of the temporary worker program. The duration of visas, conversion rates to a permanent status, industry and/or occupational distributions of temporary workers and their impacts on employment and wages of resident employees are unknown. Thus, there is little substantive knowledge available to surmise if one country's program is a success and another country's model is a failure. In this vacuum, however, two lessons can still be drawn from this analysis. First, temporary visas can provide an interim assessment visa to evaluate the immigrant's potential success if the immigrant later applies for permanent immigrant status. Student temporary visas are a good example of this temporary screening device. Currently Australia heavily recruits Asian foreign students to study in Australia. Upon completion, these foreign students who have been, in effect, vetted by the school system can apply with bonus points to become a permanent resident in Australia. In a similar vein, the United States has developed an informal multi-stage vetting process via the temporary class of immigrants. Student F visas, NAFTA TN-1 authorizations and HB-1 temporary work visas all have become de facto entry points for legal permanent residence after sponsorship by a bona fide employer.

In sum, active recruitment and processing of selected post-BA visa students and selected temporary workers in Canada would meet the competitive challenges presented by the Australian and United States regimes. A seamless program in which foreign visa students were awarded a temporary visa could be the first stage in this process. After one to two years of work experience, a final assessment could be made to convert to a permanent status. Also, a more active recruitment of highly skilled Mexicans under Canada's TN-1 provisions could counterbalance the current flow of highly skilled Canadians to the United States under this provision. The one major cost of this proposed informal conversion system is the obvious enforcement problem or inability to control the legal status of temporary workers who have been judged unacceptable as candidates for permanent immigrants. A requirement that sponsoring firms purchase a surety bond is the only feasible solution, and often this does not work if the bonded company whose sponsored temporary immigrant fails to leave declares bankruptcy.

Return Migration of the Highly Trained

Immigrant-sending countries have long recognized the economic potential of inducing their expatriots to return. In the late 1960s and early 1970s Canada's response to that period's brain drain was a generous tax remission program for highly skilled Canadians (and others) who returned to Canada. Ireland also has had a concessional tax program in place for years to encourage returning artists and writers. Israel has always been concerned with the large number of highly trained Israelis living in New York City. Finally, China and India, which have become the new major source regions for highly skilled immigrants to North America, have tried to institute policies to recapture some of their lost human capital. We now turn to China, India and Ireland to describe policy measures initiated to repatriate their highly skilled immigrants.

China

In Appendix I, K. Zhang provides a description of several actions that a strong state-run society can invoke to induce the return of highly trained émigrés. Central to these policy measures is the underlying conviction that, on balance, the 'brain drain' was, until recently, a necessary strategy to train China's elite. The fact that China subsidized out-migration, reduced mobility costs and expedited the issuance of passports to the highly skilled demonstrated that, until the early 1990s, education abroad was viewed as potentially valuable. To eventually capture these benefits through return migration, China initially instituted inducements to return home, which raised the domestic rates of return on skills and established networks for returning scholars. Under these programs, up to one-third of China's highly skilled emigrants may have returned. However, these inducements have been judge insufficient since a recent policy of a $2,000–$6,000 refundable (upon return) export tax has been instituted. This punitive measure indicates that China has deemed voluntary inducement policies as inadequate.[26]

India

India is the second largest sender of skilled workers to the United States and it has also taken a positive position on the export of skilled workers. Current surveys of engineering and computing students in Indian universities conducted by this author and a colleague in India indicate that the export of talent is often seen as an export service that provides remittances. The advent of brokers indicates the potentially exploitative nature of this market. Under this brokerage system, finders scout university or younger-level talent to partially finance their education and later facilitate their placement in North American industries (Lowell 1999). For these efforts, these brokers demand a substantial finder's fee. Their placement in the United States is the crucial

[26] A similar punitive scheme has been suggested for Canada in the form of a contingent loan for emigrating Canadian scholars (DeVoretz and Laryea 1998). Thus, under a contingent loan scheme, an emigrating Canadian student would have to repay the subsidized portion of their educational cost if they failed to return to Canada for employment. If a Canadian scholar remained in Canada, then the subsidy would not be directly repaid. Of course, the subsidy is reimbursed through taxes when the student enters the Canadian labour force.

point affecting their potential return to India. In the United States, as noted earlier, Indian highly skilled immigrants can convert from an H-1B temporary visa to a permanent visa only with employer sponsorship. Lowell argues that the outcome of this conversion rule is that repatriated Indians are either very talented or much less so. The rationale for this market-induced return flow at either end of the talent pool is straightforward. In the case of the very talented highly skilled Indian, they often accumulate financial capital while in the United States and return to India to work for their own companies (Lowell 1999). On the other hand, less-talented Indians are not sponsored for renewal by their employers and are compelled to return. To hasten the return flow of the very talented, Indian states have sent travelling committees to Canada and the United States to match Indian financiers resident in North America with highly skilled Indian immigrants. The attempt is to recruit both talent and capital back to India at concessional tax rates.

Ireland

Ireland represents a potentially instructive case study on repatriation of skilled émigrés for Canada. Historically, Ireland has been a net sender of both skilled and unskilled immigrants to England and North America. In the 1990s, for the first time in over a century the net return flow of immigrants has been positive to Ireland. Several factors been offered to explain this return migration.[27] First, Ireland's membership in the European Union has made Ireland eligible for special subsidies and allowed it access to a large export market. In addition, membership in the EU was followed by large-scale investment in the key financial and IT sectors, which accelerated Irish growth. Next, a long-standing policy of public investment in education has produced the highly trained labour force that, upon return emigration, can take advantage of these new opportunities in the financial and IT sectors. Finally, there have been a series of policy initiatives to hasten this return migration of the highly skilled. Three interesting questions from a Canadian viewpoint are: what immigration citizenship policies are in place to encourage return migration; how successful are these policies; and how are these potential return émigrés identified?

Ireland applies the doctrine of *jus sanguinis* for citizenship, which implies a wide-ranging definition of citizenship based upon ancestry (Ireland 1999). In short, this principle as applied by Ireland allows the child (or grandchild) of at least one Irish parent or grandparent access to an Irish passport. This implies that second- or third-generation highly trained Canadians of Irish descent have a relatively easy procedure to follow to return to Ireland and, more importantly, to the European Union. This citizenship principle is an extremely important force in enticing the return of descendants of previous Irish émigrés to North America. In essence, the Irish passport entitles not just return rights to Ireland but, in addition, rights of abode to all European Union member countries.

Ireland has widely advertised this advantage with major processing offices in New York, Boston, Chicago, San Francisco and Washington, D.C. In addition, their official web page provides a detailed step-by-step procedure in how to obtain an Irish passport. These efforts have resulted in

[27] Jillian Mulcahy, Ministry of Public Affairs, Ireland, has provided much of the following information.

approximately 1,000 immigrants per week with 60 percent being returning émigrés and the rest foreign nationals from Europe with no financial incentives other than a booming economy.[28] The present goal of the National Training and Employment Authority is to attract 10,000 highly skilled Irish from North America and Europe. To this end they will conduct a recruiting tour over the 1999-2001 period. This program will represent formidable competition for Canada.

Conclusions

The central question addressed by this paper is, how competitive are Canada's immigration policies in attracting highly skilled permanent and temporary workers? An equally important subsidiary question is, what remedial measures are required to enhance Canada's competitive position?

Current worldwide recruitment policies suggest that substantial competition has appeared in the 1990s for both permanent and temporary highly skilled workers. The United States, European Union, Israel and Australia are all altering their recruitment legislation and recruitment practices to attract a greater share of the immediately productive highly skilled immigrants. These countries practice aggressive recruitment in countries of origin, language assessment and training prior to arrival, conversion incentives from temporary visas to permanent status, and in-residence conversion of foreign-born graduate student visas to permanent visas. All these measures will leave Canada at a major competitive disadvantage in the near future in recruiting productive highly skilled immigrants.

Current available evidence, however, suggests that Canada's post-1978 immigration policy has been flexible enough to meet — at least on the basis of a head count — Canada's demand in mid-1990s for immigrant scientists and engineers. Table 4 confirms Canada's success in recruiting large numbers of highly skilled immigrants. Total numbers of putative highly skilled immigrants rose fourfold from the late 1980s until the mid-1990s culminating in over 12,436 highly qualified entrants in 1995.

[28] Interview with Jillian Mulcahy, FAS Public Affairs.

Table 4: Immigrant Scientists and Engineers to Canada

Year	Engineers	Natural Scientists	Math, Computer Scientists	Total
1986	753	440	402	1,595
1987	1,481	673	1,003	3,157
1988	1,416	761	986	3,163
1989	1,692	1,043	813	3,548
1990	1,875	1,096	943	3,887
1991	1,839	951	1,055	3,845
1992	2,144	711	1,456	4,311
1993	3,542	876	2,529	6,947
1994	4,451	1,484	3,184	9,119
1995	5,942	2,123	4,379	12,436

Source: Research Council of Canada, 1997, Table 34.

Two factors suggest caution in accepting this strong competitive performance at face value. First, Canada's firms continue to cite substantial shortages of skilled workers given the brain drain to the United States of their Canadian talent. This suggests a mismatch between the needs of firms and the talents of immigrants. In fact, when DeVoretz and Laryea (1998) adjust the immigrant inflows in table 4 for comparably trained Canadian émigrés to the USA (Table 5), only a small net inflow results. In fact, for the health sciences, a substantial net outflow from Canada actually occurred.

Table 5: Canada's Net Balance of human capital flows from Row to United States: 1989-1996

Occupation	Inflow: ROW	Outflow: USA	Net inflow to Canada
Managers	25,443	20,177	5,266
Health Science	4,409	7,835	(-4,409)
Sciences	20,726	20,595	131

Source: DeVoretz and Laryea 1998, Table 17.

Thus, simple raw immigrant numbers as those reported in the two above tables do not properly evaluate the success of Canada's most recent efforts in recruiting talent from the rest of the world. Performance in Canada's labour market by immigrants in their declared occupations is the ultimate test of the success of Canada's immigration policy in attracting productive skilled immigrants. On this basis, DeVoretz and Laryea report that Canada's recent highly skilled

immigrant inflow is much less productive than comparable Canadian-trained workers. This finding suggests that either poor immigration selection criteria or labour market discrimination after arrival results in this weak income performance.

If the ultimate test of Canada's immigration policy is the productivity of admitted immigrants, then the current version of the *1978 Immigration Act* requires substantial revision. In fact, the current immigration act is under review and several recommendations of the review committee would enhance Canada's ability to attract the highly skilled.[29] We assess these recommendations in a later section.

At this point, I note that the core problem is the inability of the current points system, as administered, to assess eventual labour market success. This suggests a greater role for the market in assessing the highly skilled. Hence, private firms should be given a greater role in the recruitment of both permanent and temporary highly skilled immigrants much as NGOs have input in the selection of refugees. Under this system, annually selected industries would be allocated visas to recruit temporary workers and their spouses for contracts of one year or more.[30] At the end of the contract period, these immigrants and their families would be eligible to apply for permanent immigrant status with bonus points earned for their successful temporary period in Canada; success in this case being measured by earned income in their designated occupation.

Canada's private sector would also have to become more active in recruiting the graduating foreign-born students resident in Canada. Foreign (and Canadian) graduate students should be more actively matched with potential employers in the selected industries with a firm sponsored internship program. Universities should, in turn, award both degree and residency credits for these internship programs. In this foreign-born visa conversion program the government's role should be limited to expeditiously converting a successful intern's student visa to a permanent landed status after standard health and criminal checks.[31] Finally, Canada must reward returning highly trained Canadian citizens with substantial tax remissions based upon both their training and demand for their skills in the selected industries. The private sector can help induce these ex-patriots' return in the form of a bonus payment for outstanding Canadian student loans. United States firms currently pay the Canadian student loans for highly skilled Canadian immigrants working in the United States.

In sum, Canada's reliance on permanent immigration to fill highly skilled niches is inefficient since large numbers of highly skilled immigrants are under-employed. Aggressive action initiated by both the Canadian private and public sectors is needed to attract or retain the highly

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29 See Canada, *Not Just Numbers*, A Report of the Legislative Review Committee, Ottawa, 1998.

30 Other than a check for health and criminality, these temporary immigrants would be admitted to Canada, ensuring the speed of entry. Firms who wished to expedite the health and criminality checks could pay extra fees. A surety bond held be the government equal to the value of the prospective employer's earnings would have to be purchased by the recruiting firm. This bond would be forfeited if the immigrant proved bogus or did not enter a bona fide job.

31 Foreign-sponsored graduate students from Third World countries should be permitted in this program; however, firms who hire these students should be required to compensate their home countries for any loans. This is much more sensible than the current situation in which these students leave for the United States with no home compensation.

skilled in light of the growing competition. Private firm recruitment, financial incentives and a more carefully integrated temporary and permanent immigration policy are the essential ingredients to induce a 'brain gain.' Citizenship and Immigration (1998) has already recognized some of these shortcomings and new policy directions have been suggested. Three especially cogent suggestions are made in the legislative review, and I assess them in light of other country experiences.

For permanent immigrant entry, optional language testing prior to arrival, a more focussed points assessment, and co-ordination of provincial recognition of credentials are argued in the recent legislative review to be key points to increase the efficacy of current policies. These suggestions are supported by recent experience and the technical literature and should, in fact, be extended. Israel, Germany and Australia have shown that language testing and training prior to arrival reduces the under-utilization of skilled resources. In addition, language tests prior to arrival for skilled immigrants should be made commensurate with the requirements of the intended occupation of the skilled immigrant. An inspection of existing professional certification exams for competency will yield realistic English/French language immigrant entrance requirements by occupation. This professional certification language requirement must be reflected explicitly in immigration selection criteria for the highly skilled or the immigrant's application should not be treated as a highly skilled entrant.

In a similar fashion, credential assessment and recognition must be made prior to arrival. A clear statement of the lack of educational and other requirements to achieve professional status must be declared to the potential immigrant prior to arrival. Permanent entry should be made conditional upon remedial measures to achieve professional status. With respect to standard criteria for entry, the Australian system should be followed to achieve the focus aimed for in the legislative review. To wit, a reduction in pass points to 20 or 25 (from the current 70) with a maximum of 5 points each awarded for official language, education, job offer, recognized professional certificate and personal assessment should be the norm. This more-transparent system would again expedite entry and make the system flexible. As noted earlier, completion of a graduate degree in Canada by a foreign student upon documentation should yield automatic entry.

Revisions of criteria for temporary admission of the highly skilled are also suggested by the 1998 legislative review. The suggestions to drop employment authorizations on a case-by-case basis are well founded, and their replacement with a national validation in urgently needed skills is an excellent idea. However, the review's suggestion of a financial commitment to supply national training is ill founded and just replaces waiting time (i.e. employment authorizations) with an implicit tax. An alternative scheme would be to have a national allotment of temporary visas by industry and occupation, and if a shortage results in temporary visas then firms should bid on them. The proceeds of this auction could then be used for a priority-training fund.

In sum, Canada must become more aggressive at recruiting the certified highly skilled immigrant with adequate language skills in order to effectively compete in the near future.

Appendix I: China's Brain Drain

K. Zhang

When China's door was re-opened by Mr. Deng Xiao Ping 20 years ago, it allowed for citizens to leave the country and students to study abroad. Some of them returned after a certain period abroad, but the majority have not returned. According to the most recent source, in the past twenty years China has sent nearly 300,000 students to 103 countries throughout the world, of which 100,000 have returned.[i] In the view of the conventional approach, China experienced a brain drain.

China has distinguished two categories of émigrés. The first category is the students, mainly graduate students pursuing studies abroad. Their major source of funding is provided by the government at the initial stage, and may or may not be combined with foreign funds in terms of scholarships, fellowships, or equivalent assistance at the student's host institution.

The second category applies to those who go abroad for individual purposes, namely to study abroad with sources of funding other than the government, business trips, tourism, visiting relatives and/or friends, permanent residency abroad, and so forth. The only travel document available to this group of people is the private passport.

The two categories fall under two separate administrative regimes. The Ministry of Education and the Ministry of Human Resource, and their local branches administer the first category, and the Ministry of Foreign Affairs and its local branch issues the public passport. The Ministry of Public Security and its local branches is in charge of administering the second category and issuing the private passports. The separate administration systems result in a division of the statistical records. It is, therefore, difficult to gather reliable and complete information regarding those who emigrate from China.

The number of emigrants mentioned above, therefore, represents a fraction of the total when taking the second category into account. Taking Canada as one of the destinations, Lo and Wang (1997) suggested that a small wave of Mainland Chinese immigrants arrived in the late seventies and early eighties, some as independent immigrants, and others mostly for family reunification.[ii] Due to the points system acting as a filter, the landed immigrants embodied considerable human capital. To sum up, China's brain drain is more significant than as suggested by the statistics of one-third return migrants.

In the late 1980s and early 1990s, China reversed its position and judged that this outflow was persistent and took a series actions accordingly. Initially, the policies launched were aimed — as much as was possible — at attracting the scholars and students back to China. Later, it had a dual purpose, which included serving China's socio-economic development regardless of whether the person stayed abroad or returned home. The implementation of such policies has had a sound effect, although the policies may vary from provinces.

The guiding principle of the policies at the national level is *supporting study abroad, encouraging study abroad, and freely going and coming.* China's scholars and students welcome this positive attitude, and have reacted with enthusiasm. Under this guiding principle, China's policies in this regard cover a range of directions;

1. Reducing the migration cost by releasing the control and barriers for mobility. According to the new regulation, citizens of Beijing, Tianjin, Shanghai, Shengzhen, Xiamen, Wuhan, and Chengdu can apply directly for a private passport with their identity card or household registration form, and other necessary documents concerned. In a metropolis or large city, a passport may be issued within 15-20 working days when an application is acknowledged. In other cities it takes 25 working days.

2. Increasing the rate of return to skills in China upon return by:
   a. Providing assistance for returning scholars to start up or continue their entrepreneurial activities in China. Scholars with investments can enjoy favourable market conditions, such as low land and workshop rent, low taxation, the expediting of acquiring licenses and financial loans, and so forth. In some cities, e.g. Shanghai, the government established special industrial zones for businesses run by returning scholars. One of the zones in Shanghai has constructed 4,000 square meters of standard workshop space for lease to returning scholars. It has attracted 50 enterprises, most of which are operated by those emigrants returning from the USA, Canada, Australia, Japan. The industrial zone also established an encouragement fund to award those distinguished returning scholar-entrepreneurs.[iii]

   b. Providing assistance for returning scholars to live in China. Scholars can buy houses and domestic cars at relatively low prices. Spouses and dependants are also afforded the privilege of living in a metropolis (if s/he hadn't lived in one previously), and are provided with employment, or schooling, etc.[iv] Sometimes the government even promises to provide a rent-free apartment to a returning scholar.[v]

   c. Providing extra funding for returning scholars who need to continue their academic research at the China Academy of Sciences.

   d. Providing flexible choices for returning scholars in terms of employment opportunities or changing her/his job.

3. Strengthening the linkage with returning and/or non-returning scholars by:
   a. Organizing parties and meetings for the overseas scholars by China's embassies or consulates abroad.

   b. Publishing and circulating recent newspapers and policy papers among the overseas scholars by China's embassies or consulates and other governmental institutions.

   c. Organizing "Returning Scholars Associations" in China to retain the linkage with them.

d. Awarding special achievement prizes for returning scholars. These can be of a material or non-material nature, e.g., one may receive a certificate of achievement, or be given membership in an academic or governmental organization, and so forth.

e. 4. Examining and reforming the system of sending students abroad. The major change since 1998 is that a contract should be signed between a selected scholar and the government, requiring the scholar to pay a 20-60 thousand RMB Yuan (equivalent to US$2,200 – US$6,600) deposit to insure their return.

Appendix II: United States Temporary Visas

Below appears a brief summary of commonly used temporary work visas.

- The **L** visa is issued to intracompany transferees who are executives, managers and workers with specialized knowledge who are transferred to the United States to work for their company. Duration is seven years for a manager and five years for others.
- The **E** visa is issued to investors and traders for one year with extensions.
- The **B** visa is granted for intermittent business activity in the United States used mainly to attend conferences or training.
- **H-1B** is issued to professionals with a minimum BA degree for three years with a three-year extension possible.
- **TN-1** applies to Canadian temporary visitors, treaty traders, investors and professionals with 1-year duration renewable indefinitely with a company-supporting letter.

Appendix III: Application Procedures Temporary Workers — Pre- and Post- NAFTA

Prior to the FTA and NAFTA, professional workers could be granted admission to the United States on a temporary basis through H1-B classification status. Under this classification, a profession is defined as a specialty occupation that requires critical and practical application of a body of highly specialized knowledge. In practice, a professional with a bachelor's degree satisfies this definition. Both the employee and the employer in the United States must complete considerable documentation before admission is granted. For example, both must prove that the ensuing employment be temporary in nature and the employer must demonstrate the need for a high–level employee. Moreover, both must prove via the Labour Condition Application, which must be approved by the department of labour, that the hiring of this professional employee will not adversely affect US workers.

The most time-consuming portion of the process is the assembly of the necessary documentation. After this documentation has been submitted, the Immigration and Naturalization (INS) usually responds within 6 to10 weeks. It is suggested that a person with a bachelor's degree with carefully prepared documentation has a high probability of success. The H1-B status is granted for a three-year period with a three-year extension available. After this period, one must remain outside the country for at least one year before re-applying for this status.

With the signing of the FTA and more recently NAFTA, a new temporary worker status was granted to Canadian workers. Under NAFTA, temporary workers, treaty traders, investors, temporary professionals and those non-immigrant classifications covered under the FTA are eligible for TN-1 status. This application procedure is much less cumbersome than that of the H1-B status, thus is a much quicker process. The main advantage of the TN-1 status, however, is that a Labour Certification Application is not required, which implies that it is not necessary for either the employer or the employee to prove that the worker is or is not adversely affecting a US worker. Although some documentation is required, no formal application from either employer or employee is required. Some of the necessary documentation that increases the probability of success is the following:

1. Letter from the US-based Canadian employer specifying the nature of the applicant's US business activity.
2. Copies of the applicant's diplomas or degrees.
3. Proof of procession of a licence to practice profession in the US.
4. Documentation of remuneration arrangements with the US employer.
5. Letter from the US employer stating that the employment will be temporary.

With this documentation presented in person at the border, it is suggested that the TN-1 may be granted within an hour. The TN-1 status is granted to an individual for one year and may be renewed for subsequent one-year periods. The renewal process may continue indefinitely.

Grasmick (1997) notes that the flexibility of this status allows a US employer the opportunity to asses a Canadian employee's performance and adaptability to the organization and then, if both parties are satisfied and want the arrangement to be permanent, the permanent residence visa can be applied for.[vi]

Appendix IV: Switching from Temporary to Permanent Residence Status in the United States

If a person is already in the United States as a temporary worker and wishes to change his or her non-immigrant status to that of a permanent resident, the individual must prove the following:

a. Never worked illegally in the United States.
b. Is now legally in the United States.
c. Was always in the United States legally.
d. Did not intend to change to permanent resident status the last time he or she crossed the border into the United States. Put another way, the applicant did not have a 'preconceived intent' to immigrate when he or she last crossed the border.
e. Did not abandon the application for permanent residence. Once you apply for permanent residence in the US, you generally cannot leave the country until it is granted.[vii]

After the individual provides sufficient proof for each of the five items in the above list, one must fill out an application form and provide biographic information, a finger print chart, two identical photographs and 'Additional Information' to an officer of a local Immigration and Naturalization Office. Individuals must also submit the results of a medical examination and in some cases an Affidavit of Support with supporting documentation such as bank statements.
Once the above noted documents have been submitted the Immigration and Naturalization Service (INS) will conduct a personal interview with the candidate. This is typically not a rigorous procedure. The INS officer usually confirms the applicant's identity and the information given on the various forms. The actual notification that permanent residence has been granted to the individual may come either at the end of the personal interview or mailed to the individual at a later date.

Presumably the FTA and the NAFTA temporary workers agreements insures that the pre-conditions of switching one's status from temporary to permanent resident are in place thereby raising the probability of success.

In sum, the facts show that between 1989 and 1997 the total number of switches has almost doubled. However, overall the percentage of temporary workers that have switched their status to permanent residents is still very small. A comparison of the growth in the number of professional workers under both FTA and NAFTA doesn't lead to a corresponding increase in the number of temporary workers switching to permanent residents. This may suggest that NAFTA has done nothing to increase the propensity of an individual to switch.

Appendix V: Endnotes

[i] Zhili Chen. "New Spring Speech," *China Scholar Abroad*, vol. 2, Feb. 12, 1999. Zhili Chen is the Minister of Education of China.

[ii] L. Lo and S. Wang, "Settlement Patterns of Toronto's Chinese Immigrants: Convergence or Divergence?" *Canadian Journal of Regional Sciences (Special Issue)*, 20:1 & 2, (Spring & Summer 1997): 49-72.

[iii] "China Scholar Abroad," newsletter.

[iv] My wife enjoyed this policy because she had previously lived in suburban Shanghai. When we returned after I completed my studies in The Netherlands in Dec. 1992, this policy allowed my wife to live in Shanghai with that city's urban registration, which is favourable for her in the urban labour market. Moreover, my son, who was born a year later, will be able to inherit his mother's urban status, rather than mine. When he grows up and goes to kindergarten, I won't have to pay the extra charge for not owning a local residence.

[v] This was the case for one of my colleagues. When he was about to finish his studies at Zurich University, a Shanghai Municipal Government delegation visited his university. The leader of the delegation promised to allocate an apartment to my colleague when he realized that my colleague was also from Shanghai. After returning to China, my colleague did get a new apartment from the government, which turned out to be the first and last one in Shanghai. As a result, my colleague became wealthy and famous in Shanghai.

[vi] It is important to note that some people who do not qualify for H1-B status are eligible to qualify for TN-1 status and vice versa. In general, a person with a required bachelor's degree or licence on the list of occupations covered by the TN-1 status is eligible for both statuses.

[vii] List adapted from Grasmick, Canada-Business Immigration Handbook.

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